Baton Rouge Community College

Academic Affairs Master Syllabus

Date Approved or Revised: July 25, 2008

Course Name: General Microbiology
Course Number: BIOL 210

Lecture Hrs. 3 **Lab Hrs. 3** **Credit Hrs. 4**

Course Description: Studies microorganisms with emphasis on health and disease, ecology, and industry. Includes a laboratory component that surveys laboratory techniques in microbiology applicable to general microbiology.

Prerequisites: CORE 081 or Eng 101 with a grade of C or better.
Co-requisites: None

Suggested Enrollment Cap: 24

Learning Outcomes: Upon successful completion of this course, the student will be able to:

- Demonstrate a fundamental knowledge of microbiology by identifying different types of microorganisms, their growth, reproduction, genetics, impact on humans and the environment, and control mechanisms;
- Analyze, evaluate, and interpret fundamental microbiological concepts, principles and theories included in course content;
- Demonstrate fundamental knowledge of microbiological techniques as they relate to general problems of microbiology by designing and conducting laboratory experiments and interpreting experimental results in scientifically written laboratory reports using standard English and the APA style for citing resources;
- Use computer technology to access, retrieve, process, organize, and communicate data and information relevant to course content; and
- Apply fundamental knowledge of microbiology to natural life by solving microbiology-related practical problems.

General Education Learning Outcomes: This course supports the development of competency in the following areas. Students will:

- Think critically, collect evidence (statistics, examples, testimony) and make decisions based on the evidence, comprehend and analyze texts, and solve problems using methods of critical and scientific inquiry;
- Communicate effectively using standard written English;
- Relate the general concepts of science to the world and demonstrate an understanding of the impact of these processes and their concepts on human lives; and
- Use computer technology to access, retrieve, process, and communicate information.

Assessment Measures: Assessment of all learning outcomes will be measured using the following methods:

- Individual instructor-designed exams will collectively assess a portion of the learning outcomes and will be administered during the semester as listed in the course syllabus;
- An instructor-designed comprehensive final exam, adhering to a departmental-determined common content, will assess a portion of the learning outcomes and will be given at the end of the semester; and
- Individual instructor-designed or collaborative instructor-designed assignments will assess a portion of the learning outcomes and will be given as a portion of the total grade. Assignments will include oral and written assignments, scientific reports, laboratory reports, projects, homework, and quizzes; all assignments will be graded using an instructor-designed rubric.

Information to be included on the Instructors' Course Syllabi:

- ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.

- ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor's and/or the department's policy for make-up work. For example in a speech course, "Speeches not given on due date will receive no grade higher than a sixty" or "Make-up work will not be accepted after the last day of class."

- ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.

- ***General Policies*:** Instructors' policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.

- ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.

- ***Safety Concerns:*** In some programs this may be a major issue. For example, "No student will be allowed in the safety lab without safety glasses." General statements such as, "Items that may be harmful to one's self or others should not be brought to class."

- ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

Expanded Course Outline:

I. Fundamentals of Microbiology
   - A. The Microbial World
   - B. Chemical Principles
   - C. Microscopy
   - D. Functional Anatomy of Prokaryotic and Eukaryotic cells
   - E. Microbial Metabolism
   - F. Microbial Growth
   - G. Control of Microbial Growth
   - H. Microbial Genetics and Biotechnology

II. Survey of the Microbial World
   - A. Classification of Microorganisms
   - B. Bacteria
   - C. Fungi, Algae. Protozoa and Multicellular parasites
   - D. Viruses

III. Interactions Between the Microbe and the Host
   - A. Principles of Disease and Epidemiology
   - B. Microbial Mechanisms of Pathogenicity
   - C. Nonspecific Defense of the Host
   - D. Specific Defense of the Host

IV. Microorganisms and Human Disease
   - A. Microbial Diseases of the Skin and Eye
   - B. Microbial Diseases of the Nervous system
   - C. Microbial Diseases of the Cardiovascular and Lymphatic Systems
   - D. Microbial Diseases of the Respiratory System
   - E. Microbial Diseases of the Digestive System
   - F. Microbial Diseases of the Urinary and Reproductive Systems

V. Environmental and Applied Microbiology
   - A. Soil and Water Microbiology
   - B. Industrial Microbiology